

PRENTICE COMPUTER CENTRE

UNIVERSITY OF QUEENSLAND, ST. LUCIA, QUEENSLAND, AUSTRALIA. 4067.



NEWSLETTER

N-293

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*UNIX is a trademark of AT&T Bell Laboratories.

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COMPUTING SUPPORT CENTRE FOR UNIVERSITY OF QUEENSLAND AND GRIFFITH UNIVERSITY

Principal Service Centres

Extensions

Operations Manager	3471
Contract Programming & Feasibility Studies	3944
System Status Automatic Answering	3101
General Enquiries & Course Enrolments	3018
Training & Courses	3021
Dial-up modem numbers	(300 bps) 3772977
	(1200 bps) 3772922

Consulting

PROBLEM AREA MAIL BOX NAME AND EXTENSION

Operations and Programming

Accounts	ACCOUNTS	Carol Walker	2188
Cobol	COBOL	Porl Gordon	2953
Commands, system use and probs	COMMANDS	Ian Otto	4075
		Greg Lehmann	3020
Database	DATABASE	Brett Peterson	2836
		Marie Bultreys	2835
Fortran	FORTRAN	Noela Meier	2952
Graphics	GRAPHICS	Mark Williams	2921
IBM HELP Desk	CHELP	Ellen Kraayvanger	3941
Micros	MICROS	Peter Akers	2921
Network	NETWORK	Bryan Claire	4078
		Arthur Hartwig	4079
Operations	OPERATIONS	Senior Operator	3212
PDP-11 Software	PDP11	Danny Smith	2921
Program Library	LIBRARY	Lee MacDonald	3943
Statistics Packages	STATISTICS	Barry Costin	3022
Text processing, Typesetting	TEXT	Andrew Broughton	2837
		Porl Gordon	2953
Non-specific problems	OPERATIONS	Senior Operator	3212

Engineering and Maintenance

Development and communications	ENGIN	Graham Rees	3288
Mini/Micro support	ENGIN	Alan Langdon	4018
		Martin Nicholls	3942
Terminal, line & mini probs	CCDCHELP	Maralyn Kenley	3938

Griffith University:

Consulting	7682
Computer Services	7560
Computing Co-ordinator	7561

Terminals, CDN & Equipment Pricing

For prices on microcomputers, terminals, line charges, computer bits and pieces, type HELP PRICES on your terminal. This will provide appropriate menus.

1. Operations – Sandra Campbell, ext. 3471

1.1 Expiry Date on Project Programmer Numbers

On 24 December each year all PPN's on the DEC-10's and UIC's on the VAX expire, unless the Centre has been notified in writing that a PPN/UIC is required for another year. The term "expire" means that all files owned by that PPN, both on-line and off-line, are deleted, any balance of commitment is taken to 0 and PPN and charge code are deleted from the system.

As you can imagine then, it is imperative that if you intend to keep using your account for the following year you must complete the "change of expiry date" form, prior to 24 December each year. Separate forms for KA/KL and VAX users are at the Accounts office.

We do this not to make life difficult for you, but merely to keep disk space clear and overheads down. Each year many people leave the University, go away on the Special Studies Programme or finish post graduate research and omit to notify us that they have finished with their account. Expiring accounts is our way, then, of keeping the system operating efficiently for the user's continued benefit.

Carol Walker
extension 2188

1.2 VAX Low Priority Batch Queue

There is a low priority batch queue available on the VAX for those users who have academic or research accounts. To submit requests to this queue use the following command:

SU FILENAME/QUEUE = LP\$BATCH

This queue has a job limit of 2 and runs at priority 1.

Sandra Campbell
extension 3471

1.3 Demise of the Calcomp 565 Plotter

The Calcomp 565 plotter has seen many years of service in the Centre but unfortunately, it is fast becoming unuseable.

In the light of this fact it will be taken out of service at the end of November 1984.

As an alternative we offer our clients the HP7475A plotter. This device uses A3 size paper (tracing and normal) with fibre tip pens.

Sandra Campbell
extension 3471

2. Software Development – Allan Woodland, ext. 2935

2.1 TPRINT for CMS

TPRINT provides support for a terminal-attached printer, including carriage control and pagination support. On-line documentation for TPRINT is to be found in TPRINT INFO.

The TPRINT command will output a CMS file to a printer attached to a YALE full-screen terminal. If no printer is attached, the file may be displayed at the terminal, but with printer formatting.

Syntax:

TPRINT filename filetype filemode (option...)

Filename is required. The default filetype is LISTING, the default filemode is *.

At present most of the supported terminals under YALE which have printer ports are supported as TPRINT options. Details of which ones are supported can be found in the TPRINT infofile. Help can be obtained by typing "INFO TPRINT".

*Greg Lehmann
extension 3020*

3. Engineering and Communications Services – Graham Rees, ext. 3288

3.1 KL System

In the last newsletter we reported that an intermittent memory problem had occurred briefly on a couple of occasions, crashing the system, but then resuming normal operation.

As you might have guessed, this problem did re-appear (on Tuesday 28 August 1984) and stayed long enough for us to establish that the problem was not associated with any of the plug in logic modules, but seemed to be in the wiring of the backplane. We were able to connect the appropriate memory bus cable to another area of unused logic and got the system up and going by 10.30 am.

We were then able to pursue the problem during normal maintenance time. The problem was found to be a dry solder joint on a bussed rail; mostly the contact was sufficient to work satisfactorily, but on other intermittent occasions, the contact being made was not good enough to maintain operation.

We apologise for the inconvenience to users on the 28th but claim in our defence, that these backplane problems really do take longer to find than logic failures.

*Graham Jerrard
extension 3168*

3.2 VAX System

On Thursday 6 September 1984 the VAX 11/780 system was out of action until 11.00 am. The problem was a power supply and, in accordance with Murphy's law,

was the one type of the five power supplies in the system for which we do not have a fully optioned plug in replacement. We had to use some spare sub-assemblies to replace the failed section in the original supply.

This took longer to fix than one would have hoped, but we made the mistake of believing the fault was in an area indicated by a fault status indicator. It wasn't.

Graham Jerrard
extension 3168

3.3 Computer Equipment Environmental Requirements

Airconditioning and Power

We are often asked about the most suitable environment for computing equipment. While there are no hard and fast rules, the following comments may be of interest.

The specific effects of the environment on a computer system are very difficult to assess except for extreme aberrations which cause direct damage. Normally environmental stress has a cumulative effect which overall increases the probability of failure in electronic equipment. Some general effects of power and airconditioning are recognised however and these are discussed below in relation to previous experience in the general University of Queensland environment.

Airconditioning

The best rule is to keep conditions stable.

In the normal room temperature range of 20C to 30C electronic failures occur randomly. Increasing the operating temperature 1C increases the probability of integrated circuit failure about 2%, overall it is doubted that one would notice such an increase. Therefore it is recommended that the room temperature be kept comfortable – 24C $\pm$ 1C seems reasonable.

Air flow through computer equipment is sometimes a problem and this may necessitate lowering the room temperature. This would need to be assessed on an individual basis.

Temperature gradients have by far the worst effect on equipment. The recommended maximum gradient is usually only a few degrees per hour. If possible, leave equipment and airconditioning switched on permanently 24 hours/day, 7 days/week. Mechanical equipment (discs etc.) can be shut down overnight to minimise wear. There is a risk that if airconditioning fails, the equipment may not have internal facilities for self shut down. Again, this needs to be assessed on an individual basis. Remember that if a disc pack has not been stored in the same environment as the computer system, it should be allowed to temperature stabilise before use.

Humidity is not critical except that in very low humidity static charge build up can be a problem, however this very seldom occurs in Queensland. Unless the particular installation is very critical, low humidity control is probably not worth the expense.

High humidity can cause real problems if persistent, particularly in that a rapid change of temperature can cause condensation. Fortunately, dehumidification facilities are not all that expensive to install, but do add to the running costs. A relative humidity of 55% $\pm$ 5% seems adequate if full humidity control is available otherwise an upper limit of 60% RH should be observed.

Manufacturers advertise that their equipment will operate from 0C to 40C and up to 90% RH non condensing and, of course, it will. If in some situation it is necessary to operate equipment under adverse conditions, then do so. However, in-

creased failure rates are to be expected.

For various reasons some equipment is often not airconditioned, e.g. terminals and micros. The cost of providing airconditioning may outweigh the increased cost of maintenance and often these devices are obsolescent in only a few years. However, if a controlled environment is available then their reliability will no doubt be improved.

A clean environment is better than a dirty one. It is generally recommended to keep all foreign material to a minimum including foodstuffs, people, cleaning chemicals (use a damp cloth if you must), dust, etc. Many factors which are really common sense are often overlooked.

Power

There are two factors concerning the normal 240 Vac power – protection and regulation. Fortunately, at this University the raw power supply is quite 'clean' and there are very few transients (short duration high voltage spikes) or sags or surges (slower voltage changes perhaps over several seconds). However, being in a lightning prone area, it is worth ensuring that lightning suppressors are installed on the main building switchboard and spike suppressors costing only a few dollars can be fitted to equipment. These do not offer complete protection but as far as I am aware, the central equipment has sustained no damage due to transients since this type of protection was installed. However there are some locations on campus where the power is a problem and simple protection is not sufficient.

Isolation transformers offer complete transient protection, however such systems are quite expensive, depending on the power required.

Power regulation systems vary from solid state to rotating devices and can include short break or no break switching to an alternate emergency supply. They tend to be fairly expensive but may be justified in certain situations.

In summary, it is recommended that transient protection be installed using widely available passive devices and other more elaborate systems be examined on an individual basis.

EMI Noise

Radiated energy has been a problem in a few locations on campus. The effects can be minimised by paying attention to proper earthing, however sometimes the only way out is to shield the equipment and cabling appropriately. Each case needs to be considered separately.

Graham Rees
extension 3288

3.4 File Transfers and Electronic Mail over AUSTPAC

As mentioned in previous newsletters the Computer Centre has implemented the network protocols used by the UK academic and research communities. (This software was obtained from the University of York). Though the facilities have been available for some time they have not yet been described in a newsletter article.

The software on the DEC10 allows files and electronic mail to be sent to or received from other sites that implement the protocols provided they are connected to a network accessible from AUSTPAC. At the time of writing, electronic mail incoming to the DEC10 is not automatically placed in the target users mailbox (this is done manually) but in the near future the mail will be automatically placed in the target user's mailbox, thus significantly reducing the time between the mail's arrival

and its availability to the user.

All the programs to be described make use of a network directory file which is a table matching a sites network address (at the very least a 9 digit number) with a mnemonic (e.g. YKXA for the KL-10 DEC-10 at the University of York). The table also includes details of the type of machine the target machine is. The table is maintained by the Computer Centre and requests for additions or modifications should be directed to the author.

The File Transfer System

The file transfer system is implemented as an enhancement to the Galaxy spooling system. There is a file transfer spooler which processes requests from DEC-10 users and incoming file transfer requests from remote users. To gain access to a DEC-10 user's files a remote user must quote the DEC-10 user's network file transfer password. To make a network file transfer request the DEC-10 user must have an AUSTPAC account with the Centre.

To initiate a file transfer over the X.25 network the user may give the DEC-10 command TRANSFER. This command is not for the casual user though because quite a number of switches must be specified and their arguments must be correct. Instead it is recommended that the TRANSF program be run by the command

R TRANSF

The TRANSF program is much more friendly and forgiving – it prompts for all the information it requires, gives an explanation of the options and lists all the options for those cases where a user must select one of a variety of options.

The Mail System

The mail system makes use of the file transfer spooler to send mail and receive incoming mail.

The POST program is used to send MAIL. It prompts for a destination user (e.g. FRED @ CAGA to send mail to user FRED at the site named CAGA in the network directory), a subject and a message text. The POST program has no editing facilities unlike the local DEC-10 MAIL system, so type carefully OR create a .MIC file to run POST, supply the target user, the subject text and message text.

Restrictions

Only users of the KL DEC-10 may use this system.

Only users with Computer Centre AUSTPAC accounts may send mail or initiate a file transfer. Users at other sites may send files to or receive files from any DEC-10 user with a network file transfer password.

I know of no other Australian sites with compatible software, though from enquiries I have had, it appears that at least two are considering implementing similar systems.

File transfers and mail initiated from the DEC-10 is charged at current AUSTPAC rates which is 60c per 1000 characters and 20c per connect minute for calls outside AUSTRALIA. These rates are considerably higher than those charged by some overseas countries, so if you have a lot of data to transfer it may be cheaper to have another party initiate the transfer and then re-imburse them.

Arthur Hartwig
extension 4079

4. Distributed Computing – Geoffrey Dengate, ext. 3391

4.1 KERMIT Developments

The following flavours of KERMIT are now available on UQKL10::DSKX:[5,124] for users to make use of:

Micro	File prefix
Apple II Dos 3.3	APP
Apple II CP/M-80	CPMAPP
Osborne I	CPMOSI
Osborne Exec	CPMOSE
Kaypro II	CPMKAY
DEC Rainbow	86
NEC APC	86
SIRIUS 1/VICTOR 9000 (CP/M-86 and MS-DOS)	VIC
IBM-PC	PC

There are currently versions on UQKL10:: and on UQVAX::. The UQVAX:: version is invoked by typing

```
$ KERMIT<cr>
```

and the UQKL10:: version is invoked by typing

```
.R KERMIT<cr>
```

A new version for the KL10 has been put on the area NEW:. It can be invoked by typing

```
.R NEW:KERMIT
```

and assistance with the command structure can be obtained by typing a question mark anywhere along the command line. This version has SERVER support implemented. Please try it out and report any problems to the electronic mail address MICROS. Implementations for UNIX are also available.

Work is continuing on KERMIT implementations for IBM VM/CMS, RSX-11M and RT-11 in that order, so stay tuned.

For additional information contact Peter Akers on extension 2921.

*Geoffrey Dengate
extension 3391*

5. User Services – Tony Bird, ext. 3944

5.1 Changes to Consulting Service

The Centre has always provided a Consulting Service to assist users in solving problems encountered with our services.

Up to five or six years ago, consulting work was largely limited to questions on the operating system (there was only one!) and problems with Fortran programs. However in recent years there has been a tremendous growth in the diversity of both system software and application areas supported by the Centre. In operating

systems alone we now assist users with VM/CMS, TOPS-10, VMS, EUNICE, UNIX, RSX-11, RSX-11M, TSX and RT-11. Supported applications include statistical packages (SPSS and SAS), maths packages, typesetting, data base, CAD/CAM and communications to name but a few. Obviously this ever increasing diversity requires greater specialisation by our staff and makes the provision of an appropriate and timely consulting service on any specific topic very difficult.

To improve the consulting service, we are extending the concept of the 'IBM Help' desk set-up as a trial earlier this year. This 'Help' desk has proved very successful with more than 67% of user queries being resolved **immediately** at the desk. Two HELP desks have now been established.

The Central Computing HELP desk is staffed by Supervising Computer Operators in rotation, who handle all problems related to the IBM, DEC-10 or VAX 11/780 mainframes and peripherals including the typesetter and plotters in the Centre. The desk can be reached on extension 3941 during normal working hours (8.30am – 4.30pm Monday to Friday) or electronic mail messages can be sent at any time to the address "CCHELP" on any of those mainframes.

Electronic mail will be cleared first thing every morning and then regularly during the day.

The Distributed Computing and Network HELP desk is staffed by Maralyn Kenley who will handle all problems related to departmental/divisional machines and the communications network. The phone number of this desk is extension 3938 and electronic mail address on all mainframes is "CCDCHELP". In addition, a message recorder on extension 3938 allows users to report problems after hours for action the next day.

On both HELP desks, the staff will be able to answer the majority of queries immediately. Unanswered problems will be forwarded to specialist staff who will return the answer via the HELP desk or contact the user directly for further discussion on the problem. In order to ensure ready access to the HELP desks by all, calls will be limited to 10 minutes.

Clients must note that the HELP desks are for problem solving. Queries on accounting must still be directed to extension 2188 while bookings for courses and general enquiries should go to extension 3018.

We believe these arrangements will provide a greatly improved consulting service in that:

- (a) it provides central contact points for all problems,
- (b) it is an 8.30am – 4.30pm service which immediately responds to the majority of problems,
- (c) referred problems will be followed up to ensure the earliest practical response,
- (d) mechanisms exist for users to report problems out-of-hours, and
- (e) all users, whether on the St Lucia campus or remotely located, will receive the same high level of service.

John Noad
extension 3017

5.2 Pilot UNIX* Course

In recent years the 'UNIX' operating system has earned a formidable reputation,

amongst the cognoscenti, as providing an ideal environment for university computing. Up to now however, true UNIX has only been available on some departmental machines. Of course the Centre supports her half-sister EUNICE, but she, like Cinderella, has been forbidden the drawing room and works below stairs, i.e. she runs under VMS on the VAX.

With the recent addition to the network however, it is now possible to offer UNIX on a central mainframe and this will be done from First Semester next year. The precise version has yet to be decided, but rest assured it will be available.

Which brings us to the purpose of this item. I should like to hear from people interested in attending a pilot UNIX course during the week ending 3rd November 1984. Please note that the course is intended to be a "Pilot" in the fullest sense, format and methods used will be, to a certain extent experimental, e.g. considerable use will be made of the 'learn' and 'manual' facilities contained within UNIX itself. The course will be largely hands on and will attempt to cover rather more material than usual. We hope to cover UNIX concepts, the shell, and the VI editor; together with document preparation using nroff/troff. We'll also take a brief look at the various utilities and tools such as 'sort', 'awk', and 'grep'.

We think this approach is justified because of the on-line coaching and reference material available under UNIX, which will still be available to users after the course ends. We shall be trying for a relatively mixed intake in order to better assess the effectiveness of the pilot, so let's hear from all you people that have always wanted to know about UNIX but were too shy to ask!

Why not 'phone me for further information.

Tony Bird
extension 3944

*UNIX is a trademark of AT&T Bell Laboratories.

5.3 Information Concerning Courses

The schedule of courses for the period October-December is as set out below. (Where necessary, additional courses may be added to the list.)

Note: regarding the courses "Introduction to IBM" (4 half days) and "Conversion to IBM" (3 half days):

The "Conversion" course is directed at users with familiarity of some computer system (e.g. PDP-10) and who now wish to make use of the IBM system; the "Introduction" course is intended for new users with no previous computing experience, i.e. it corresponds in function to the "Introduction to PDP-10" course.

One of the two above courses should normally have been completed before attending either the SQL course or the SCRIPT course (just as the "Introduction to PDP-10" course is required before attending courses on PDP-10 packages).

Note on SAS Course:

This course should be regarded as an introduction to SAS rather than a complete exposition of the facilities of this package (see elsewhere in this Newsletter for a description of SAS). As such, it will contain the corresponding type of material at approximately the same level as the SPSS course currently offered, viz., defining variables, setting up a data file, reading values, transformation of data, selection of

cases for inclusion in analysis, simple statistical procedures, as well as normal general operational techniques.

October

SAS	October 12, 19 & 26 3 full days 9-12 + 1-4 each day
RUNOFF	October 15-18 4 half days 1-4 each day
Conversion to IBM	October 16-18 3 half days 9-12 each day
SCRIPT	October 22-25 4 half days 9-12 each day
Introduction to PDP-10	October 22-25 4 half days 1-4 each day
Conversion to IBM	October 30-November 1 3 half days 9-12 each day
UNIX	October 29-November 1 4 half days 1-4 each day

November

VAX Conversion	November 2 1 full day 9-12 + 1-4
Introduction to PDP-10	November 5-8 4 half days 9-12 each day
Introduction to IBM	November 5-8 4 half days 1-4 each day
Statpack	November 9 1 full day 9-12 + 1-4
Elementary Basic Programming	November 12-15 4 half days 9-12 each day
Conversion to IBM	November 12-15 4 half days 1-4 each day
TECO Editing	November 16 1 full day 9-12 + 1-4
1022	November 19-23 5 half days 9-12 each day
SQL	November 19-23 5 half days 1-4 each day
Elementary FORTRAN Programming	November 26-30 5 full days 9-12 + 1-4 each day
CAD/CAM	November 26-29 4 full days 9-12 + 1-4 each day

December

RUNOFF	December 3-7 5 half days 9-12 each day
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SCRIPT	December 3-7 5 half days 1-4 each day
SPSS	December 17-21 5 half days 9-12 each day
SAS	December 17-21 5 half days 1-4 each day

Notes:

1. All of the above courses will be held in Room G13A – Hawken Building (except for the CAD/CAM course which is held in the Graphics Room, Hawken Building).
2. Enrolments for all courses may be made by phoning extension 3018.

*Barry Maher
extension 3021*